SAFETY SUPPLEMENT

TECHNICAL MANUAL

AEROSPACE EMERGENCY RESCUE AND MISHAP RESPONSE INFORMATION (EMERGENCY SERVICES)

THIS PUBLICATION SUPPLEMENTS TO 00-105E-9 REVISION 8, DATED 30 SEPTEMBER 2002, LOCATED AT WEB SITE:**http://www.robins.af.mil/ti/tilta/documents/to00-105E-9.htm**.

DISTRIBUTION STATEMENT - Approved for public release; distribution unlimited.

COMMANDERS ARE RESPONSIBLE FOR BRINGING THIS SUPPLEMENT TO THE ATTENTION OF ALL AFFECTED AIR FORCE PERSONNEL.

PUBLISHED UNDER AUTHORITY OF THE SECRETARY OF THE AIR FORCE

27 MARCH 2003

1. PURPOSE.

This supplement provides instructions for update of TO 00-105E-9 Revision 8, dated 30 September 2002, affecting Chapter 8 USAF Fighter Aircraft. This update changes existing information regarding the F-15 Eagle aircraft rescue procedures and incorporating a new procedure for the left engine emergency shutdown.

2. INSTRUCTIONS.

a. This information, if it applies to your operation, can be downloaded and printed from this web site by the end user. Use the most current Adobe Reader for this function. This software is free and can be downloaded from Adobe.com at their web site. PDF files should be downloaded with the Reader running on your PC to reduce download time.

b. This supplement to Chapter 8 adds information based on newly provided source data information regarding the F-15. The new update should be added to Chapter 8 in TO 00-105E-9 Revision 8. The end user should save this file and print the affected pages, if applicable to the user's operation. File a copy of this Safety Supplement with the main Technical Order according to current regulations.

NOTE

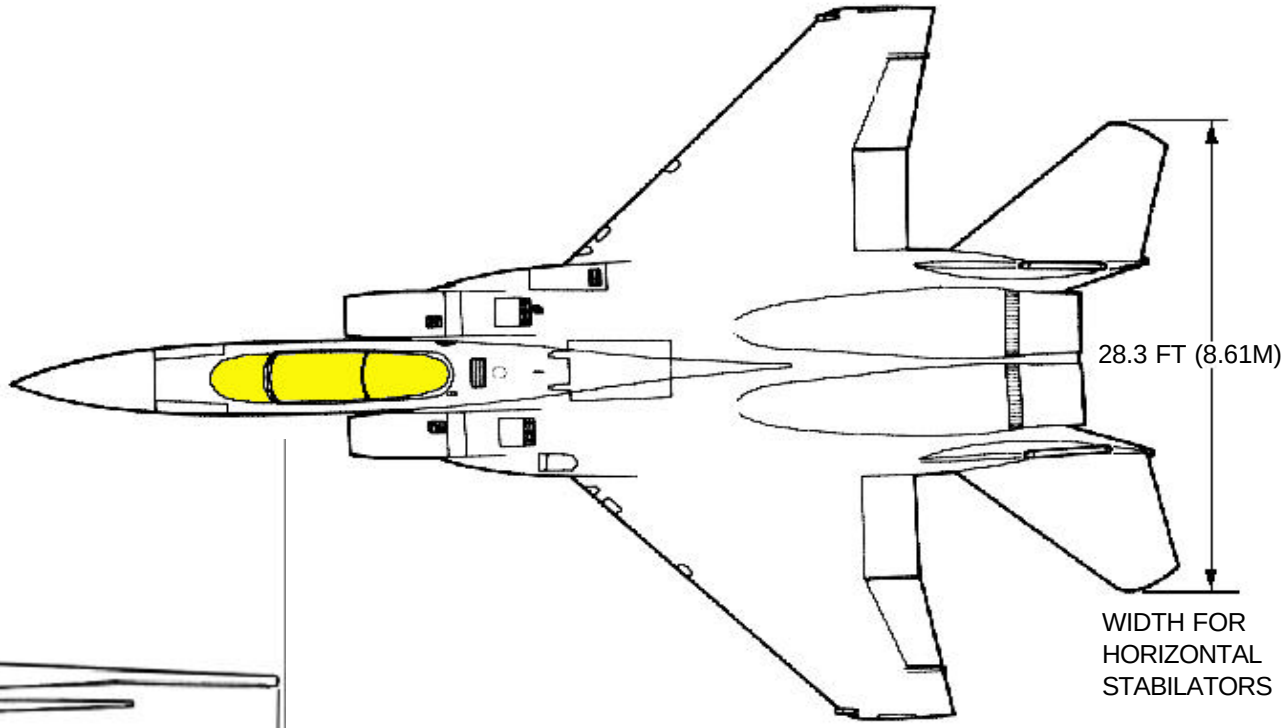
The operational user file is the whole or selected printed pages from the web site placed in a binder used for local, transient operations or both. This information should also be included in mobility boxes where applicable. If your unit or a part of your unit is serving elsewhere, they should be informed of this Safety Supplement and how to obtain it. See TO 00-5-2 paragraphs 1-1.4,1-1.4.1, and 1-1.6 for Local Reproduction of TOs and Digital Media guidance.

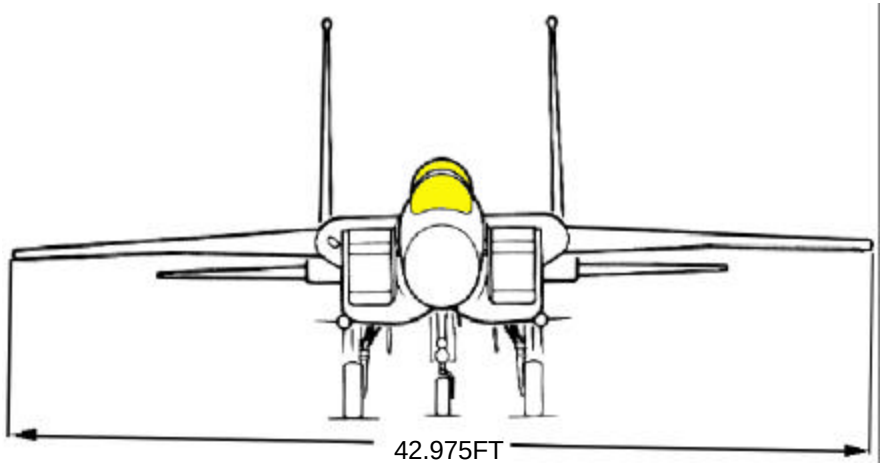
THE END

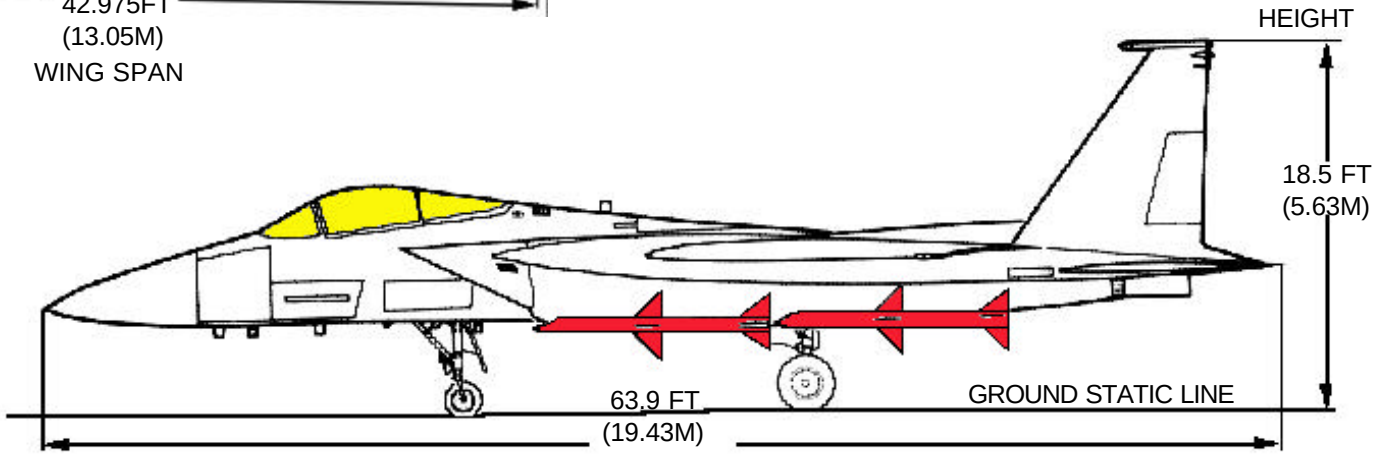
AIRCRAFT PAINT SCHEMES

AIRCRAFT DIMENSIONS

NOTE:
The F-15 represented does not have conformal fuel tanks.

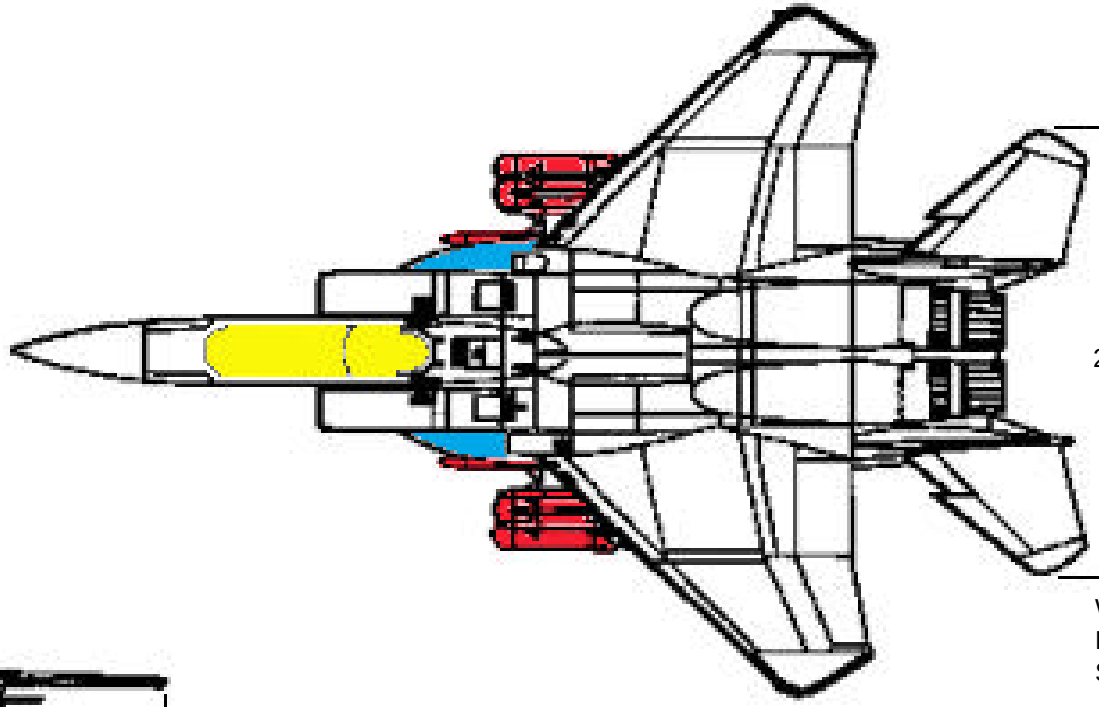


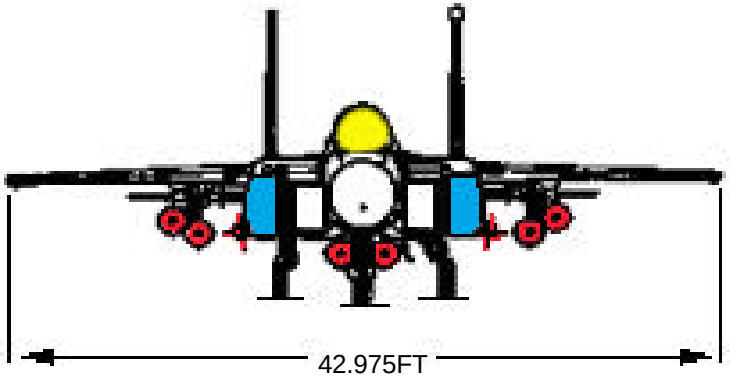


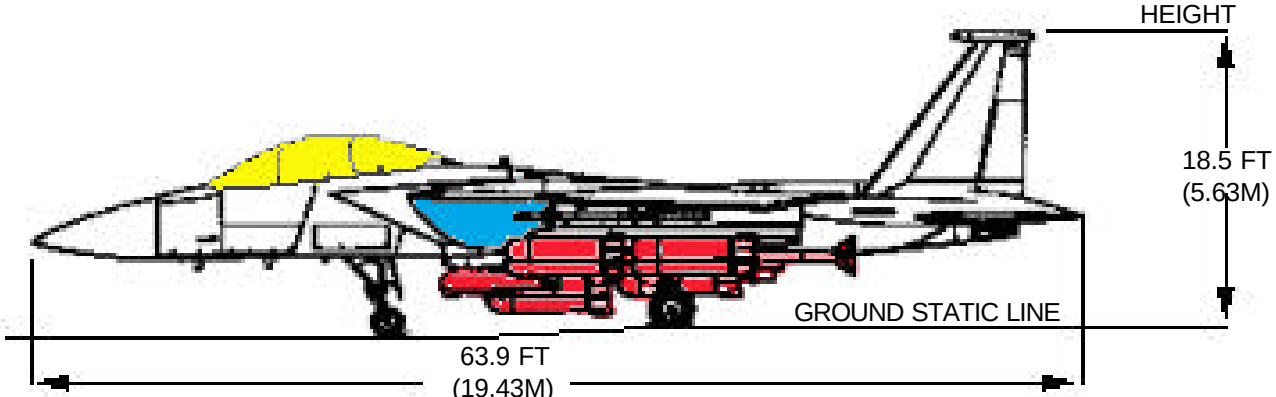


AIRCRAFT DIMENSIONS-Continued

NOTE:
The F-15 represented does have conformal fuel tanks (in blue).







GROUND FIRE ACCESS POINTS

1. GROUND FIRE ACCESS POINTS

NOTE:

Fire access doors are located in the right and left engine side compartments, the Jet Fuel Starter (JFS), and Airframe Mounted Accessory Drive (AMAD) areas. Engine and JFS doors are opened by striking sharply with a fist or by a push of about 45 pounds. The AMAD door contains louvers through which extinguishing agent may be applied.

NOTE:

Push buttons and a switch on the fire control panel are located on the upper left side of the pilot's instrument panel. Agent discharge location is selected by first button pushed. Button stays in approximately 1/8 inch when pushed. In event that incorrect button is pushed, push again restoring button to normal position. Then push correct button. Move agent discharge switch up to discharge position. One engine or JFS must be operating to provide power to discharge the Halon 1301 extinguishing agent (6.6 pounds).

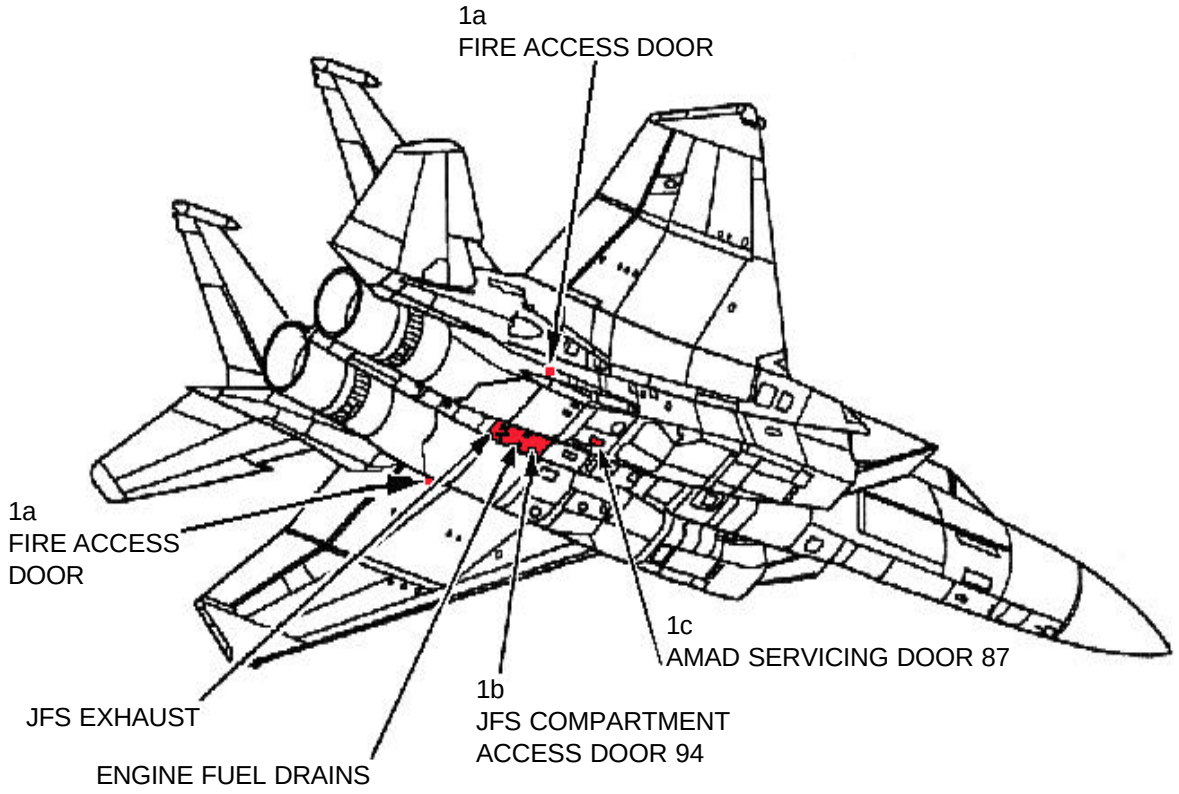
a. The engine fire access doors are located about 6 feet aft of each main landing gear on the sides of the engine compartments.

b. The JFS fire door is located at the aft end of the JFS.

CAUTION

Beware of the engine fuel drains and JFS exhaust areas.

c. The AMAD servicing door is located just inboard and aft of the right main landing gear.



AIRCRAFT HAZARDS

1. Armament Fwd Fire Zone - 1000 FT.

2. Cannon Fwd Fire Zone - 1000 FT.

3. Radar - 300 ft. personnel - 500 FT.

4. Engine Air Intakes - 25 FT.

CAUTION

Danger zone can extend as far as 5 feet aft of the air inlet at high power settings.

5. Canopy Jettison Envelope - 50 FT.

6. Jet Fuel Starter (JFS) Intake - 4 FT.

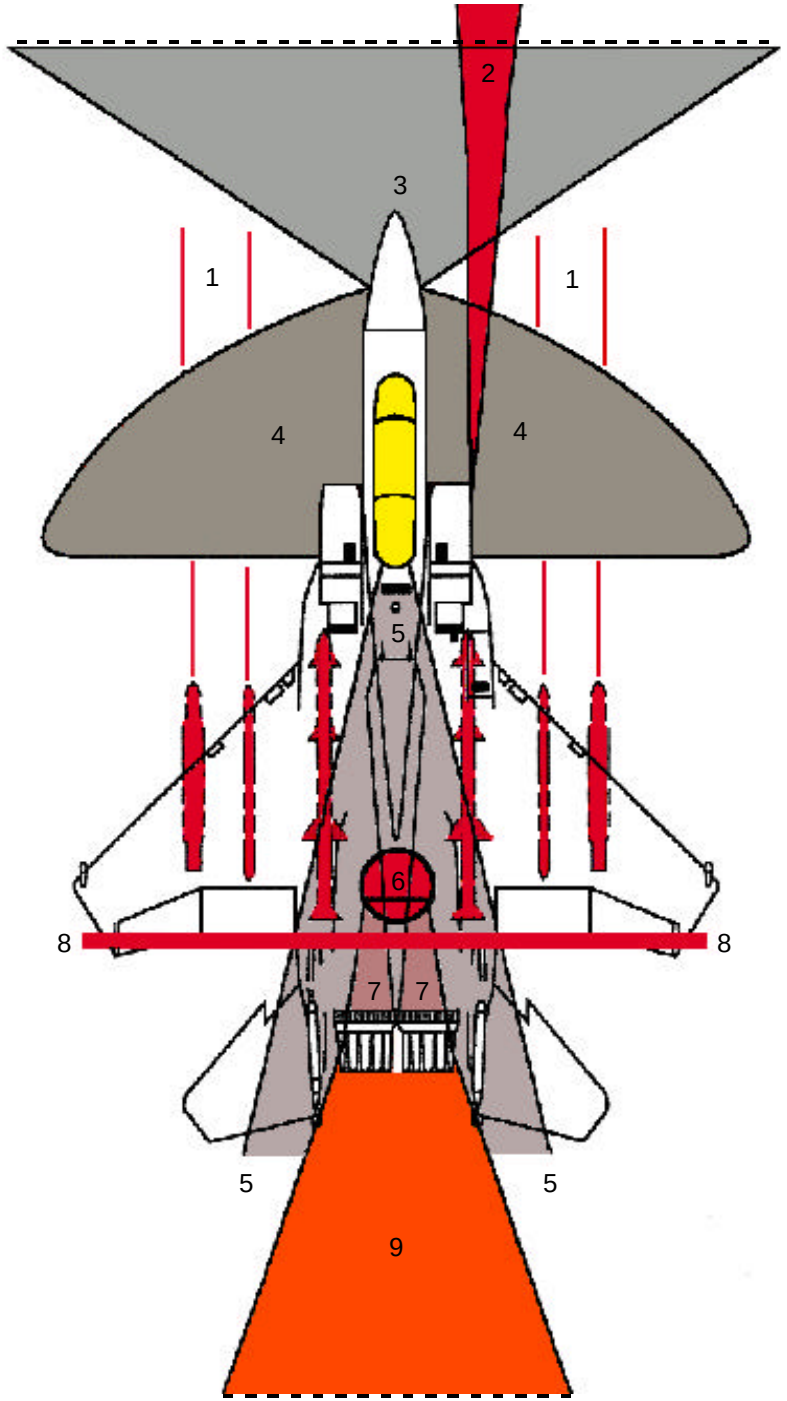
7. JFS Exhaust - Aft along the centerline to the engine tail cones.

8. Turbine Blade Failure - 300 FT.

9. Engine Exhaust -
   - Intermediate Power Temperature: Above 1000 degrees at the tailpipe.
   - Velocity: Above 1000 MPH at the tailpipe.

WARNING

10. F-15E model - LANTIRN Pod - Avoid contact during an aircraft mishap! Contains Thorium at the window assembly.
    - Radiation poison through ingestion, inhalation, and absorption through an open wound.
    - Contains Americum - 241 at the Laser Trans/ Receiver can result in radiation poison through ingestion and inhalation.



AIRCRAFT HAZARDS-Continued

WARNING

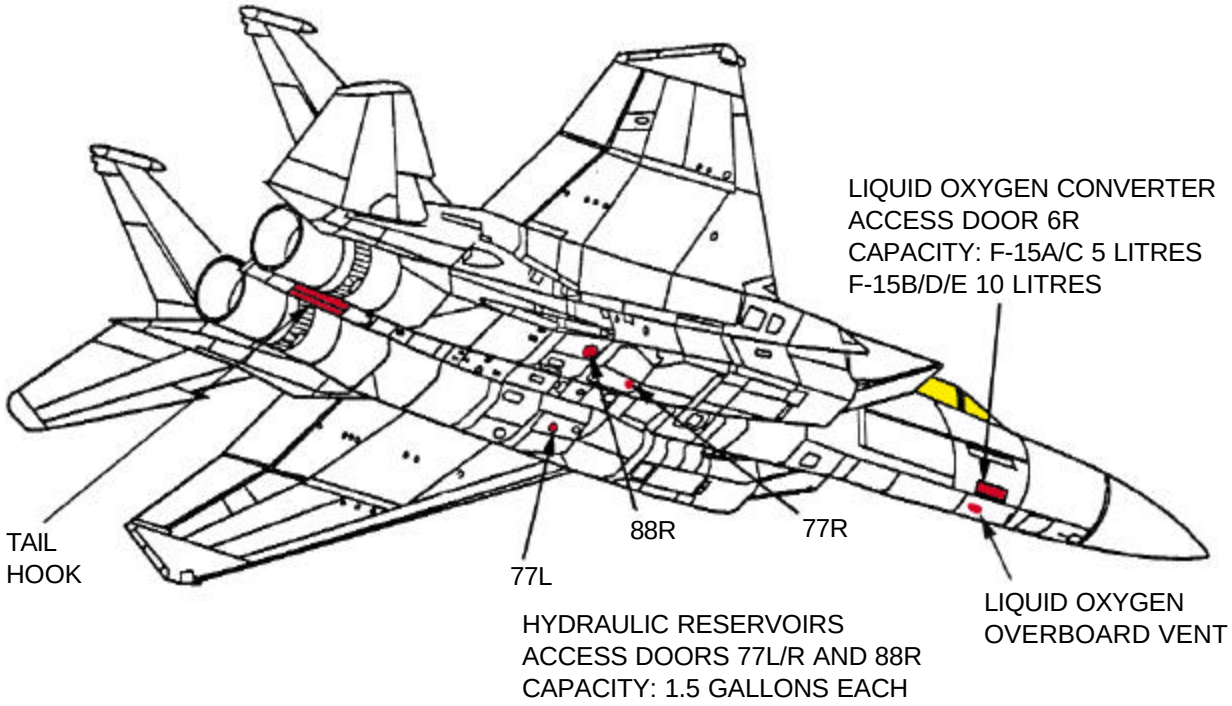
Avoid tail hook area. Sudden release of tail hook can cause serious injury or death to personnel.

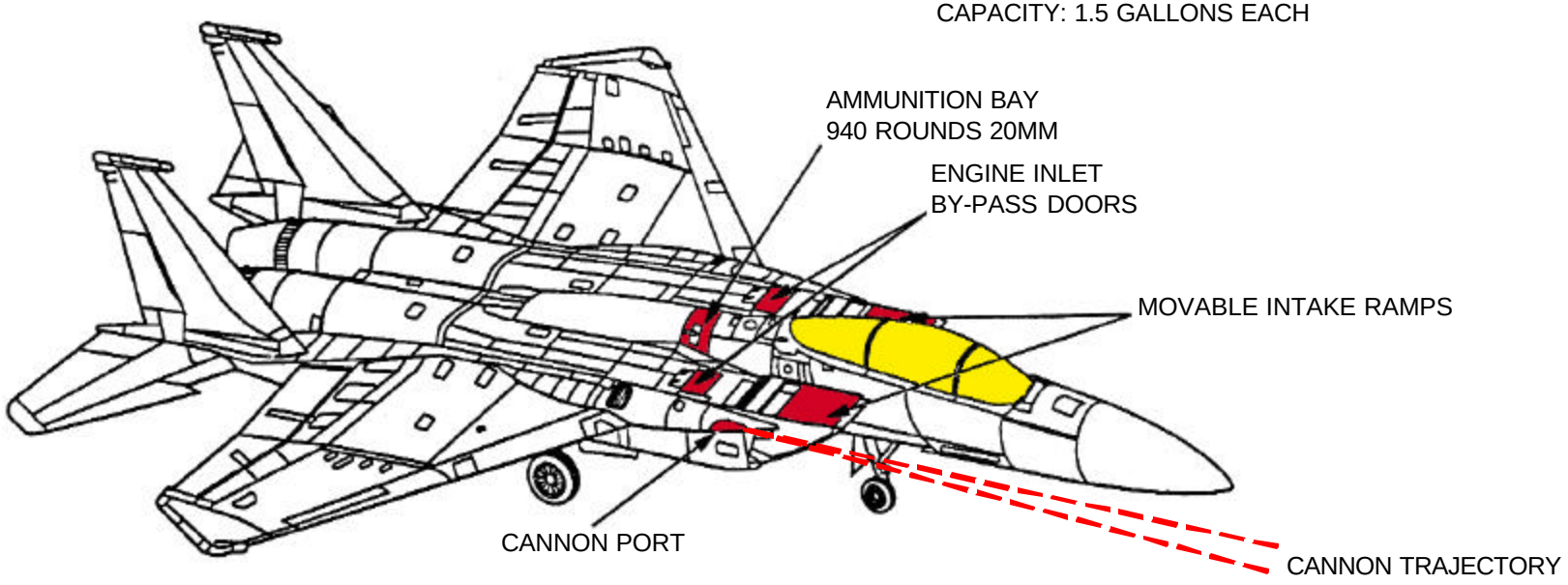
WARNING

Avoid positioning personnel, vehicles and equipment forward of cannon port on right side of aircraft. Cannon operation can cause death and extreme damage to vehicles and equipment.

NOTE:

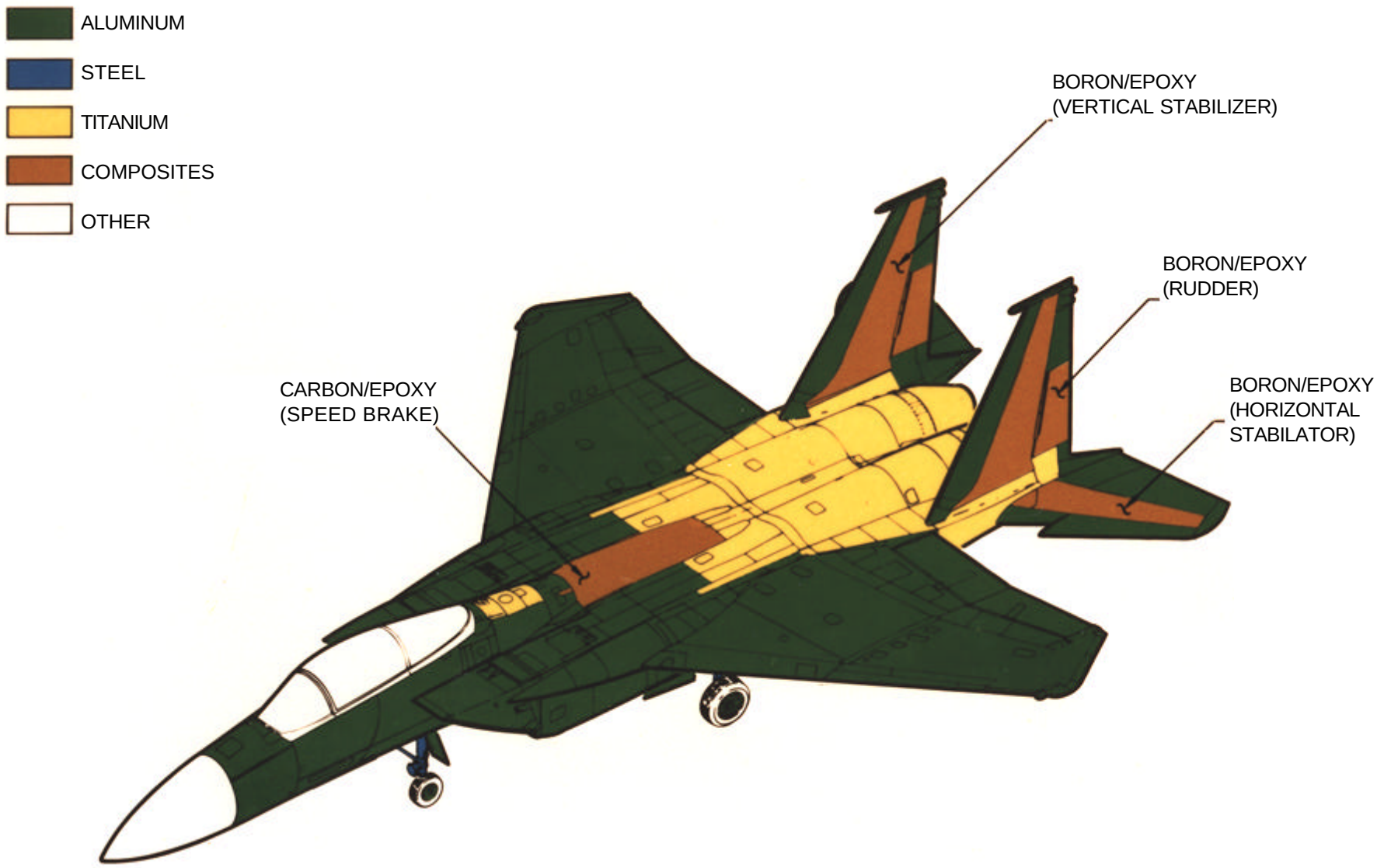
Conventional and nuclear armament up to 2,000 pounds.





AIRCRAFT HAZARDS

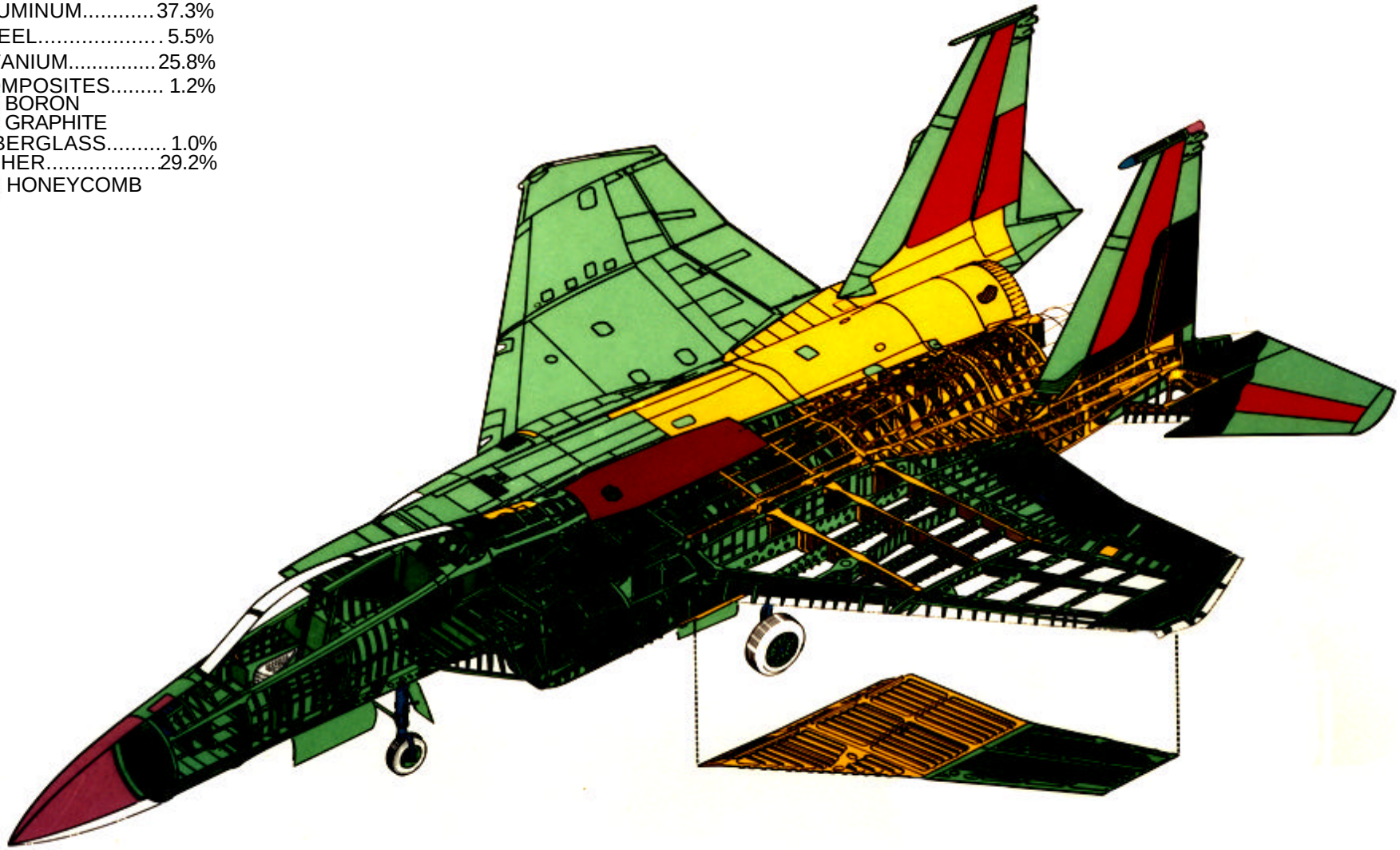
COMPOSITE APPLICATIONS



AIRCRAFT HAZARDS-Continued

COMPOSITE/MATERIAL DISTRIBUTION

- ALUMINUM.....37.3%
- STEEL.....5.5%
- TITANIUM.....25.8%
- COMPOSITES..... 1.2%
  - BORON
  - GRAPHITE
- FIBERGLASS.....1.0%
- OTHER.....29.2%
  - HONEYCOMB



SPECIAL TOOLS/EQUIPMENT
Power Rescue Saw Pri-Ax Dearming Tool Fire Drill II
1/2 Inch Drive Socket Wrench or Breaker Bar
Safety Pin P/N C114767-1
Battery Powered Drill or Speed Handle with # 14 Apex

AIRCRAFT ENTRY

CAUTION

Engine vari-ramps operate in a declined position while engines are running and will automatically return to a horizontal (up) position upon engine shutdown.

1. NORMAL ENTRY

a. Push handle release button on normal control handle, located on the left side of fuselage, allowing the handle to spring out.

b. Rotate handle fully clockwise to UP position.

c. Install canopy ground safety lock to brace canopy open.

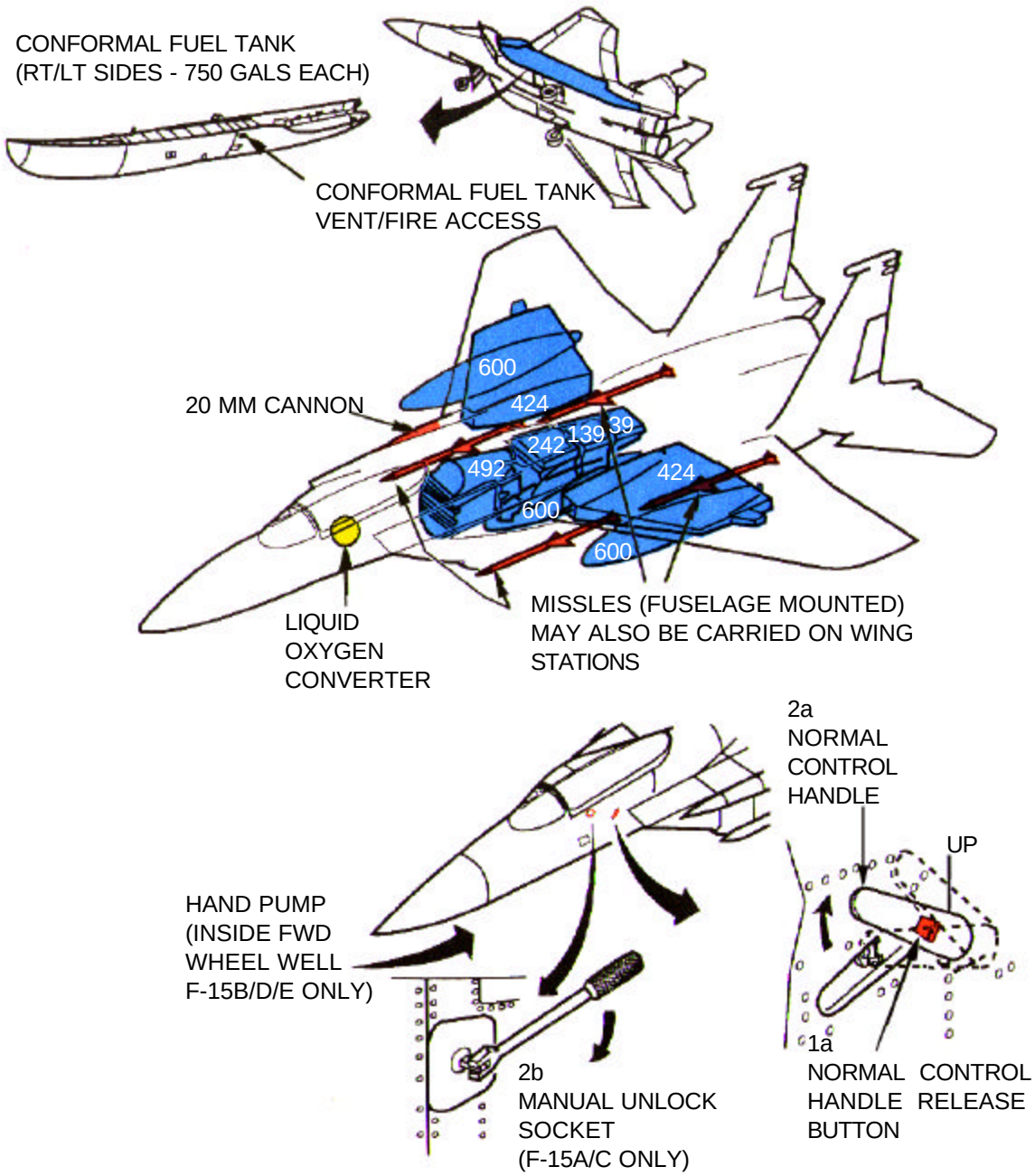
2. MANUAL ENTRY

a. Ensure normal control handle is out and rotated fully clockwise to UP position.

b. F-15A/C aircraft (single seat): insert 1/2 inch drive socket wrench or breaker bar into manual unlock mechanism, located below the forward leading edge of the canopy, and rotate clockwise. Manually lift canopy and install canopy ground safety lock to brace canopy open.

c. F-15B/D/E aircraft (two seat): adjust and pin canopy ground safety lock and force canopy aft approximately 1.5 to 2 inches and lift canopy. Install canopy ground safety lock to brace canopy open.

NOTE:
The canopy on two seat aircraft will require at least two people to lift and hold. If nose gear is down and fwd wheel well is accessible, with 1/2 inch tool, locate hand pump, insert tool and pump to raise canopy hydraulically.



AIRCRAFT ENTRY-Continued

3. EMERGENCY ENTRY

a. Press button to open door 9, located on left side of fuselage forward of the engine air inlet, and remove canopy jettison T-handle.

NOTE:
Insure canopy jettison safety pin is removed from canopy jettison initiator before attempting canopy jettison.

b. Grasp canopy jettison T-handle and extend canopy jettison cable to full length (approxi mately 8 feet). Stand forward of door 9 to avoid falling canopy.

WARNING

Avoid canopy impact area during jettison. See page F-15.3 item 5. Impact with personnel can injure or cause death.

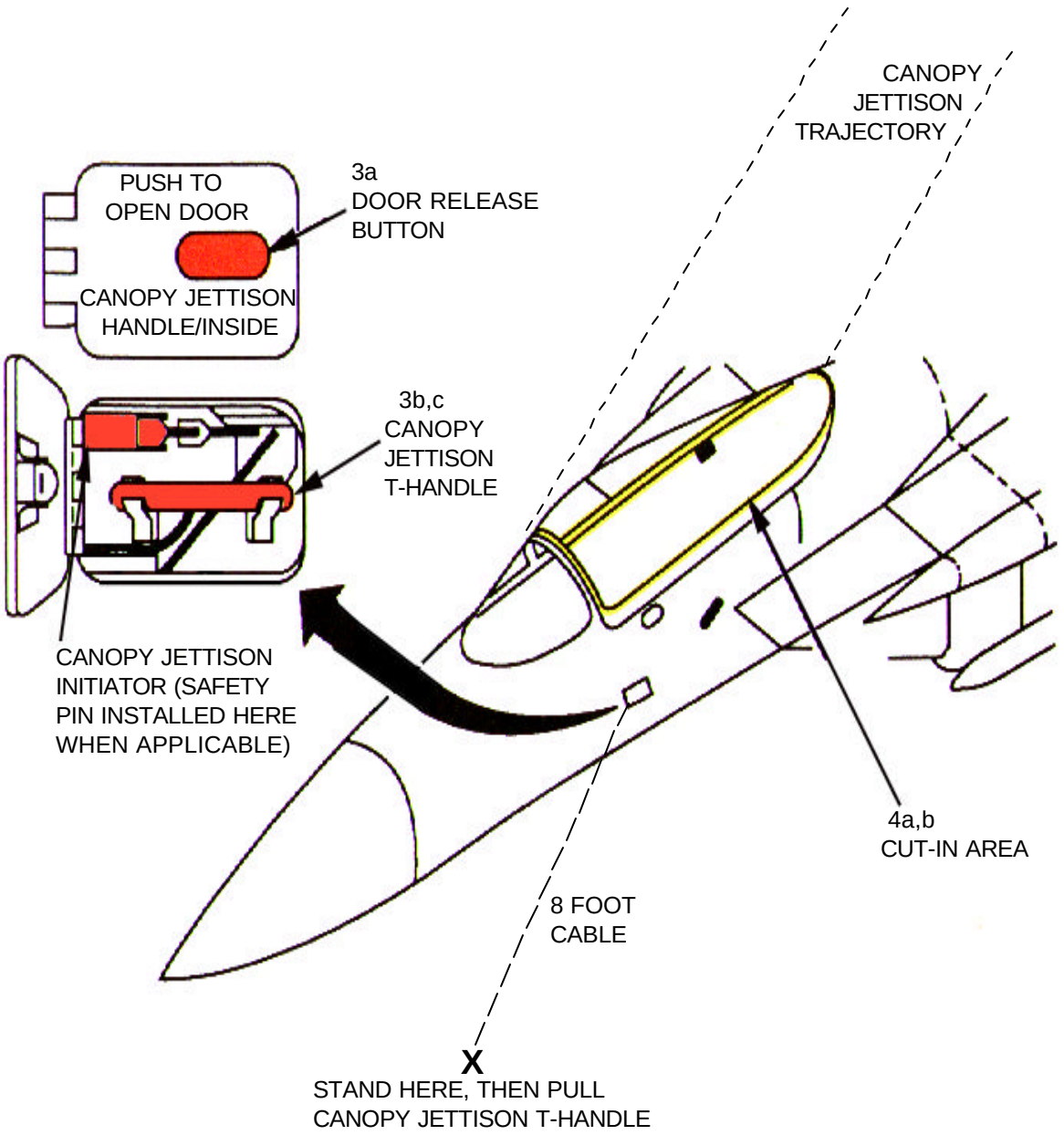
c. Pull firmly and sharply on T-handle to jettison canopy.

NOTE:
Due to the strength of the canopy transparency, all sides of the canopy must be cut to reach the crewmember(s).

4. CUT-IN

a. Cut through the canopy transparency, using a power rescue saw with a carbide tipped blade, along the canopy frame.

b. Make 4 complete cuts and lift transparency up and away from cut-in area.



ENGINE SHUTDOWN

1. ENGINE SHUTDOWN

NOTES:

Complete engine shutdown can be accomplished from only the front cockpit only. However, if over the left wing access to cockpit is used, the engines can be positioned to idle from the rear cockpit (two seat aircraft only) reducing the danger of intake suction.

- On F-15E 86-0184 and up, guard must be lifted before pressing fire extinguisher buttons.

- Operation of Main Engine fire buttons automatically closes the engine fuel shutoff valves and eliminates the need to position the engine master switches to OFF. The engine master switches are separated on all F-15 models. Engine master switches are positioned side-by-side on F-15s other than US based models.

- One engine must be operating to provide 28 volt DC power for operation of the Main Engine fire extinguisher system.

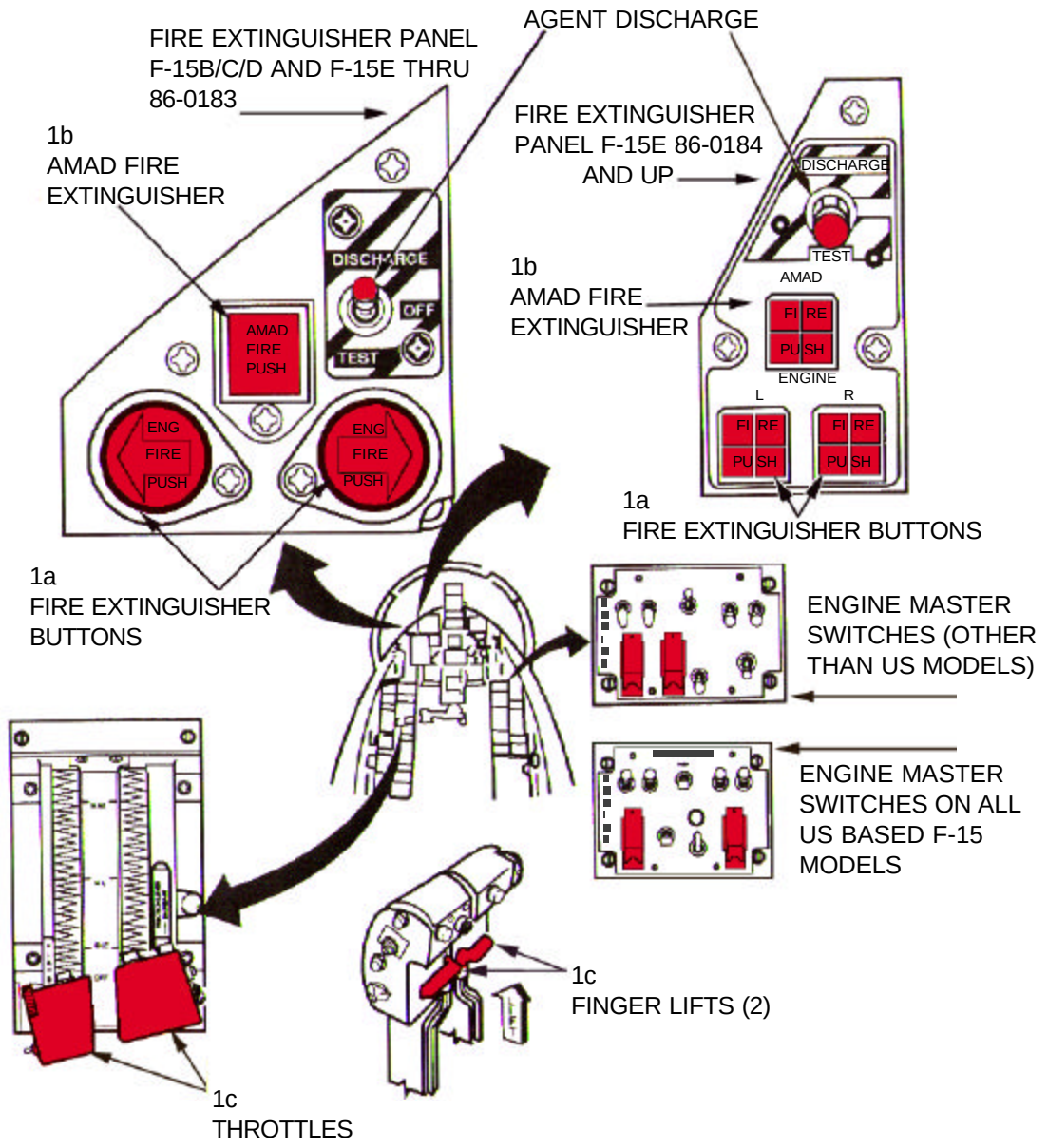
a. Depress the left and right engine fire extinguisher buttons in the front cockpit located on the upper left side of the pilot's instrument panel. This action closes the engine fuel shutoff and bleed air.

NOTE:

The jet fuel starter (JFS) must be running to provide 28 volt DC power for operation of the AMAD fire extinguisher system.

b. In event JFS is running (during engine start) push AMAD fire buttons located on the upper left side of pilot's instrument panel. This closes the JFS fuel shut-off relay.

c. Raise finger lifts on throttles and pull back to below IDLE. Release finger lifts and move throttles to OFF.



EXTERNAL LEFT ENGINE SHUTDOWN

1. EXTERNAL LEFT ENGINE SHUTDOWN

WARNING

READ THE FOLLOWING WARNINGS AND NOTES TO DETERMINE F-15 ENGINE VERSION FOR THIS PROCEDURE. To prevent death or injury, be careful when cutting near left engine fuel/oil lines. Do not insert cutting blade more than two inches into panel to prevent potential fuel/oil line rupture.

NOTES:

- External left engine shutdown procedures will be used only if engine shutdown from the cockpit is unsuccessful or impractical. If conditions warrant, the left engine may be shutdown using the following external methods.

- The throttle linkage for F-15s are connected to three different engine fuel controls: (1) The Unified Fuel Control (UFC) for Pratt-Whitney (PW) F100-PW-100 engine, (2) Main Fuel Control (MFC) for PW F100-PW-220/-220E, and (3) MFC for PW F100-PW-229 engine.

WARNING

Approximately 1pint of hot fuel will drain over board from the P&D valve, located forward of the -100/220 engine's UFC.

NOTE:

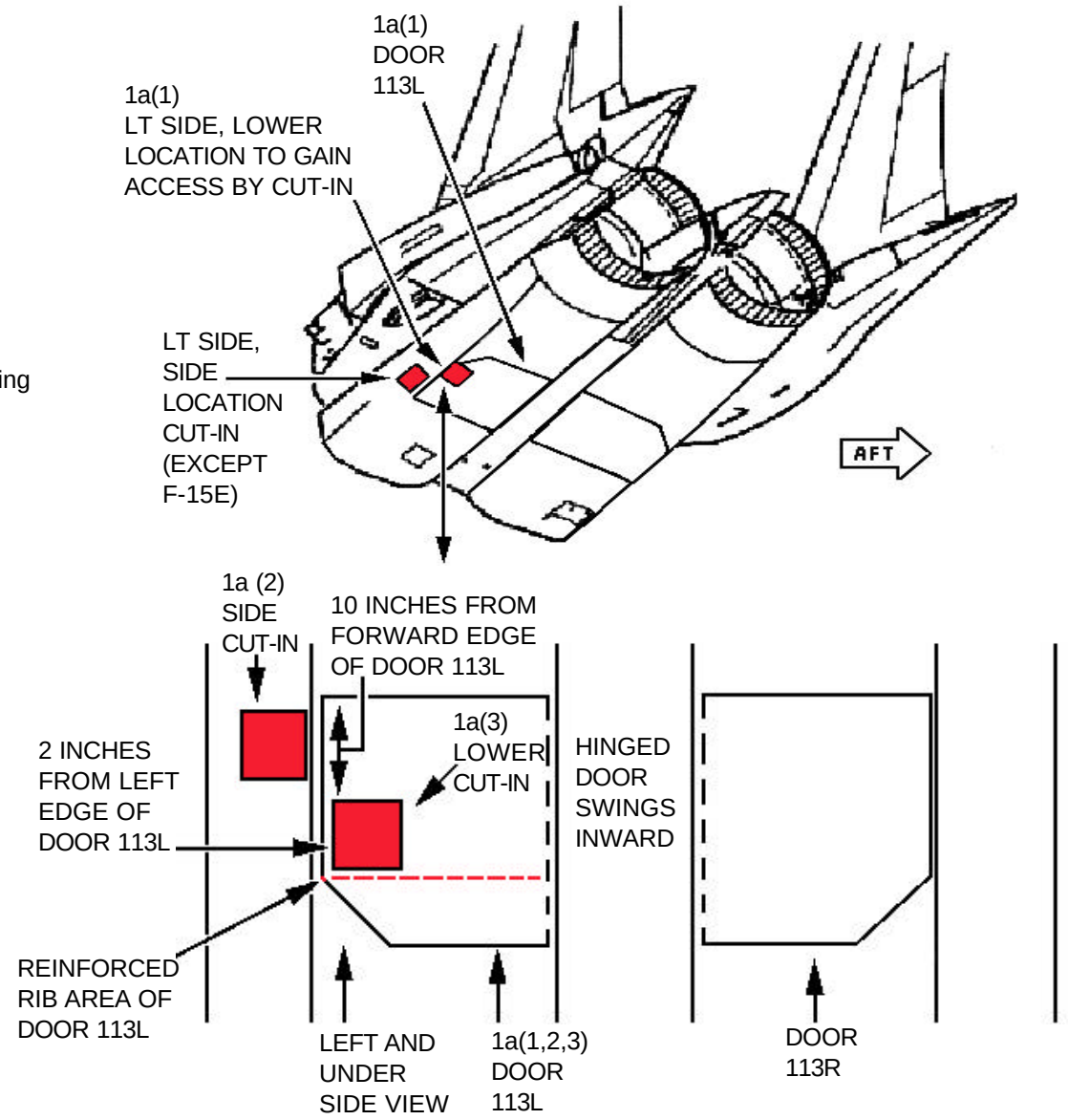
On engine shutdown for the F100-PW-229 MFC fuel flow is cut off immediately and stores the residual fuel. No fuel will be drained over board.

NOTE:

F-15E left engine cut-in area is blocked due to conformal fuel tank installation. Use Door 113L procedures for access.

a. To gain access to the UFC or MFC and throttle shaft:

(1) By opening door 113L, remove screws with a # 14 apex with adapter, using a speed handle or a battery powered drill. (Door is hinged and will open toward centerline.) If time does not allow removal of screws, follow the next step for cutting in.



EXTERNAL LEFT ENGINE SHUTDOWN-Continued

1. EXTERNAL LEFT ENGINE SHUTDOWN - Continued

WARNING

Do not insert cutting blade more than **TWO INCHES** into panel to prevent potential fuel/oil line rupture. Be careful with cut edges, metal will be razor sharp.

(2) Cut/break hole through fuselage on left side adjacent to panel 113L between the formers making no more than a 1/4 inch deep cut. Cut just below the rivet line. This will place access slightly forward of left engine throttle allowing proper space for step 1b.

(3) Cut/break hole through lower cut-in on door 113L. This cut should be 10 inches from forward edge of 113L. This will place access under left engine throttle allowing proper space for step 1b. (Use panel corner as guide.)

CAUTION

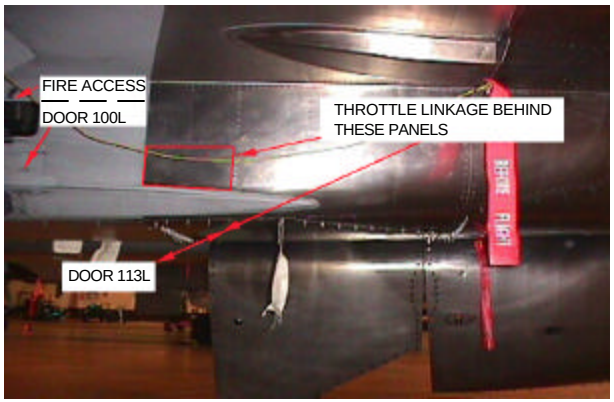
Do not cut beyond this point. It is critical that the aircraft structure does not get cut or damaged.

b. Press the two quick disconnect pins on the spline shaft and pull the spline shaft off the engine throttle.

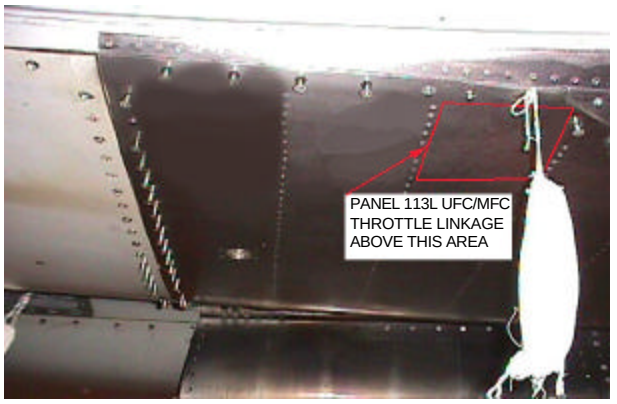
NOTE:
This action isolates throttle linkage from cockpit controls. If linkage is not separated and spline shaft is rotated, finger tabs on cockpit controls can not be overcome and engine will continue to run at idle rpm.

c. Turn engine throttle spline shaft counterclockwise to cut-off detent position and hold until engine operation ceases. This is easily rotated as there is no resistance or spring action.

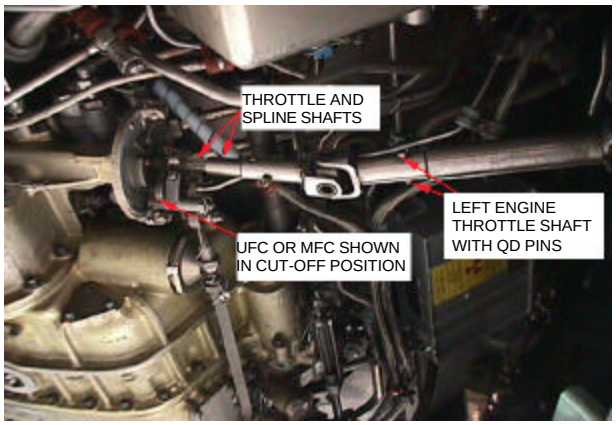
d. Gain entrance to cockpit and shutdown right engine. Refer to page F-15.11.



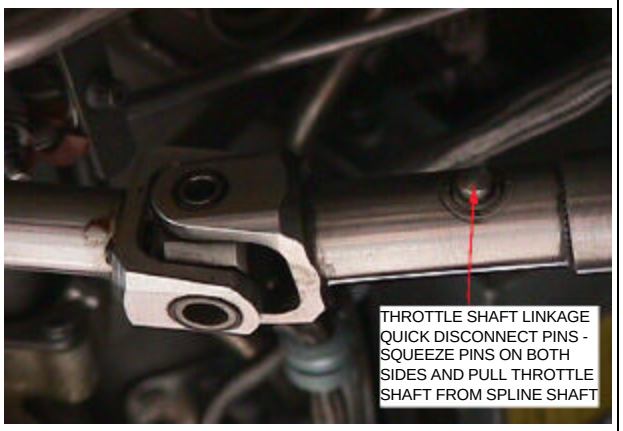
1a(2) LEFT ENGINE CUT-IN AREAS



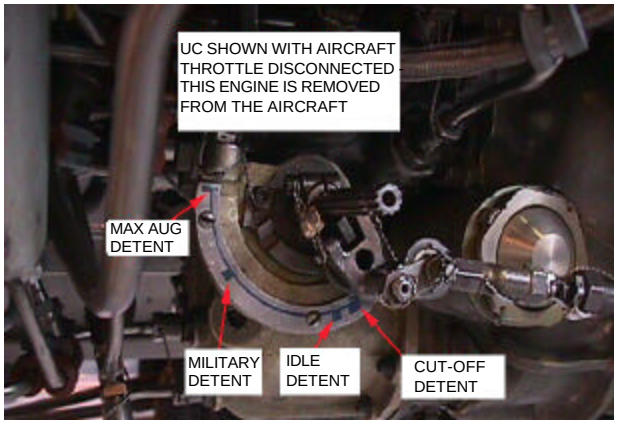
1a(3) LEFT ENGINE DOOR 113L



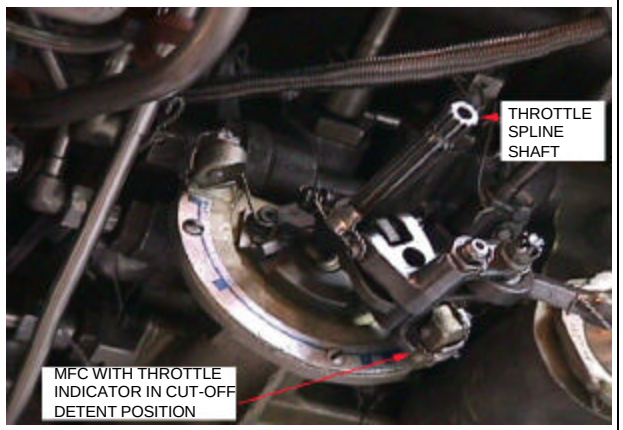
1b LEFT ENGINE THROTTLE SHAFT



1b LEFT ENGINE THROTTLE SHAFT QD PINS



1c LEFT ENGINE THROTTLE POSITIONS



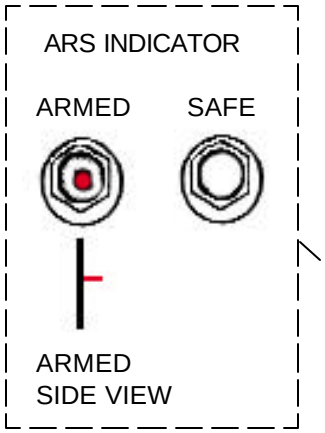
1c THROTTLE CUT-OFF DETENT POSITION

EJECTION SEAT INDICATOR

1. EJECTION SEAT INDICATOR

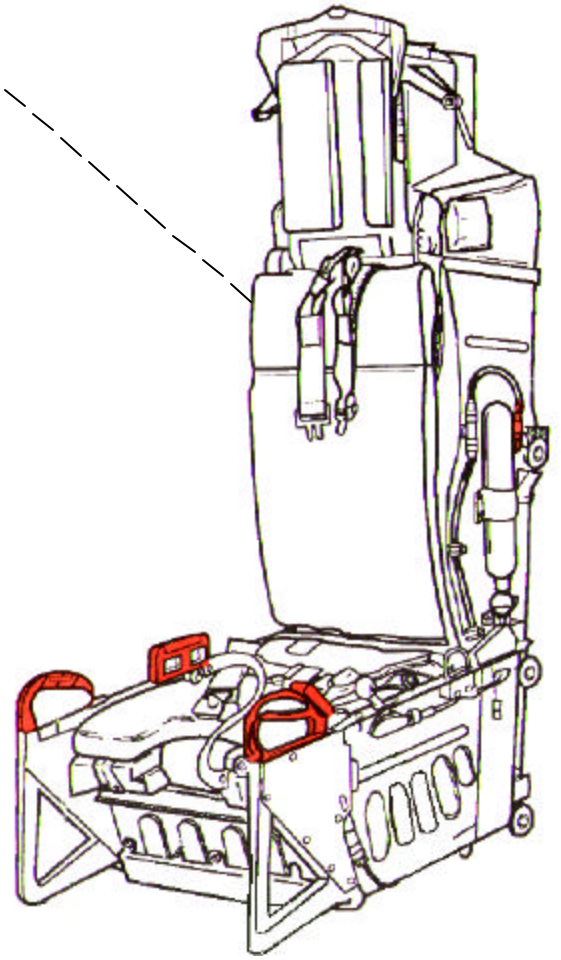
WARNING

A Seat Armed Indicator located on the upper right side of the seat can indicate WHITE for OK and RED for SEAT ARMED. This indicates that the Advanced Recovery Sequencer (ARS) battery condition is serviceable or expended. If expended, the white sealant will be punctured by a protruding red pin. If this is a recent condition, it will take two hours for the seat to be considered safe to work around or remove. Electrical battery power is required to energize the recovery sequencer circuits for the numerous explosives on the seat. Use extreme caution and judgement in this case. If time permits, call the local Egress Shop before proceeding. If emergency exists and time does not allow inspection by the Egress Shop, sever all exposed ballistic lines including top of seat for the rocket catapult.



NOTE:

Do not touch indicator sealant when checking condition. Frequent touching wears off sealant exposing tip of red pin indicating a false ARMED ARS condition.



SAFETYING EJECTION SEAT

WARNING

The seat is armed regardless of canopy position. Jettisoning the aircraft canopy automatically arms the ACES II ejection seat. On two seat aircraft, both seats must be safetied before either can be considered safe. Prior to entering the cockpit, locate the FIRED WARNING INDICATOR on seat bulkhead left side near canopy sill. A red spiral indicator will indicate system actuation or system malfunction if seat(s) are still in aircraft. Use EXTREME CAUTION under these circumstances; system can still actuate!

1. NORMAL SAFETYING of EJECTION SEAT(S)

a. Rotate Ground Safety Lever, located left side of seat directly aft of the left Ejection Control Handle, UP and Forward.

NOTE:
The Ejection Control Handle safety pin can ONLY be installed from the forward inboard side of the left handle.

b. Install safety pin in left Ejection Control Handle.

c. Install safety pin in the Emergency Manual Chute Handle, located on the right side of the seat. If Ejection Control Handle and Emergency Manual Chute Handle Pin are connected by one safety streamer, route Emergency Manual Chute Handle under aircrew's legs, otherwise extraction will cause entanglement with streamer.

2. EMERGENCY SAFETYING of EJECTION SEAT(S) AFTER CANOPY JETTISON

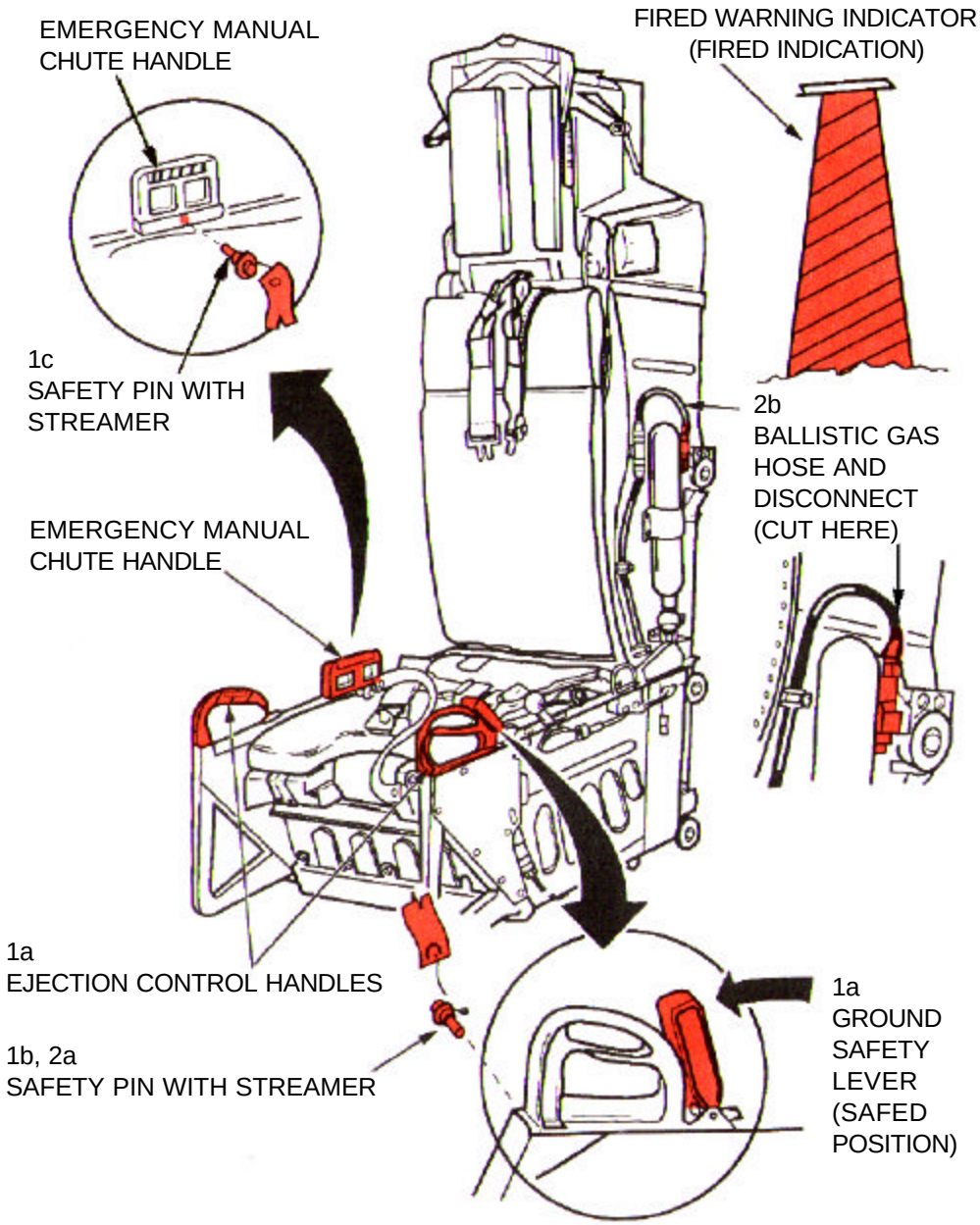
WARNING

Rotating the Ground Safety Lever in this situation does not adequately prevent the possibility of inadvertent ejection.

a. Rotate Ground Safety Lever, located left side of seat directly aft of the left Ejection Control Handle, UP and Forward.

b. Insert safety pin in left Ejection Control Handle.

c. Cut ballistic hoses on left and right sides of seat(s), above disconnects, to prevent ballistic gas from actuating ejection devices, with ballistic hose cutting tool.



AIRCREW EXTRACTION

1. AIRCREW EXTRACTION

NOTE:
Pulling the Emergency Manual Chute Handle WILL NOT release crewmember.

a. Unsnap crewmember's mask from helmet on both sides.

b. Release G suit hose on lower left hand side of seat.

c. Release oxygen hose and oxygen T block on right hand side of seat. This also disconnects emergency oxygen.

d. Release communication lead on right hand side of seat.

e. Release safety belt by lifting cover and pulling release bar.

f. Release left and right survival kit buckles by depressing PUSH TO RELEASE button on each buckle.

g. Release left and right shoulder harness fittings by lifting cover and pulling release bar on each fitting.

h. Extract crewmember over the rescue or left side of the cockpit. Insure that Ejection Control Handles, Ejection Safety Pin, and Ejection Safety Lever are not moved during extraction.